

### **Listing of Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A compression plate anastomosis apparatus for anastomosing a first vessel ~~to~~ and a second vessel together, comprising:

a first compression plate having a first compression plate opening;

wherein the first compression plate opening has a perimeter defined by first holding means for holding a portion of the first vessel that defines a first vessel opening, wherein the first compression plate is shaped to enable the first vessel portion to extend through the first compression plate opening in a manner such that the first vessel opening conforms to the perimeter of the first compression plate opening, and wherein the first holding means is adapted to hold the first vessel portion in a manner such that the first vessel portion is at least partially everted ~~and is not penetrated~~; and

a second compression plate having a second compression plate opening;

wherein the second compression plate opening is defined by second holding means for holding a portion of a second vessel that defines a second vessel opening,

wherein the first compression plate and the second compression plate have means for locking the compression plates together ~~such that the portion defining the first vessel opening and the portion defining the second vessel opening are joined without being penetrated when the first vessel and the second vessel are anastomosed together, and~~

wherein the first holding means is shaped to hold the first vessel portion in a configuration such that when the first vessel portion and the second vessel portion are anastomosed together there is an uneven distribution of force against the first vessel portion caused by the shape of the first holding means.

2. (original) A compression plate anastomosis apparatus as recited in claim 1, wherein the first and second compression plates are snap-fit compression plates that are configured such that the locking means snap into place when the compression plates are brought together.

3. (original) A compression plate anastomosis apparatus as recited in claim 1, wherein the locking means comprises a plurality of locking arms extending from an outer periphery of a ring of the first compression plate and a locking extension of the second compression plate.

4. (original) A compression plate anastomosis apparatus as recited in claim 3, wherein the locking arms of the first compression plate have a length that enables the arms to lock around the locking extension in a manner such that the portion defining the first vessel opening and the portion defining the second vessel opening are held together without being damaged in a manner that causes the anastomosis to fail.

5. (original) A compression plate anastomosis apparatus as recited in claim 1, wherein the first holding means comprises a plurality of holding tabs extending from an inner periphery of a ring of the first compression plate.

6. (original) A compression plate anastomosis apparatus as recited in claim 1, wherein the second holding means is a holding surface located around the second compression plate opening with a configuration such that the portion of the second vessel defining the second vessel opening may be everted onto the holding surface.

7. (original) A compression plate anastomosis apparatus as recited in claim 6, wherein the holding surface extends radially downward at an angle from the second compression plate opening.

8. (withdrawn) A compression plate anastomosis apparatus as recited in claim 1, wherein the locking means comprises means for guiding the movement of one compression plate relative to the other, ~~wherein the guiding means extend from one of the compression plates to enable one compression plate to be moved in a fixed parallel orientation relative to the other compression plate, wherein the guiding means have a length and configuration that permits the first vessel opening and the second vessel opening to be initially spaced apart and opposite from each other and then to be advanced toward each other as one compression plate is moved toward the other while each holding means holds the respective vessels until the compression plates bring the second vessel portion that defines the second vessel opening into contact with the first vessel portion that defines the first vessel opening such that the first vessel and the second vessel are anastomosed together.~~

9. (withdrawn) A compression plate anastomosis apparatus as recited in claim 8, wherein the ~~compression plate opposite from the compression plate from which the guiding means~~ extends from one of compression plate and the other compression plate has a plurality of holes through which the guiding means are inserted such that the compression plate with the holes is a glidably mounted on the guiding means, and wherein the holes are sized to provide frictional resistance to movement of the glidably mounted compression plate with the holes on the guiding means.

10. (original) A compression plate anastomosis apparatus as recited in claim 1, wherein the first holding means comprises a first plurality of holding tabs and wherein the second holding means comprises a second plurality of holding tabs.

11. (currently amended) A compression plate anastomosis apparatus as recited in claim 1, wherein said first and second compression plates each have an inner periphery at their respective openings, wherein said first and second holding means are located on the inner peripheries of the respective first and second compression plates.

12. (original) A compression plate anastomosis apparatus as recited in claim 1, wherein said first holding means are in mating configuration with respect to said second holding means once the second vessel is brought into contact with the first vessel for anastomosis.

13. (original) A compression plate anastomosis apparatus as recited in claim 1, wherein said second holding means is adapted to hold the portion of the second vessel that defines the second vessel opening in a manner such that the portion defining the second vessel opening is at least partially everted.

14. (withdrawn) A compression plate anastomosis apparatus as recited in claim 4 8, wherein said guiding means extend from the first compression plate with a perpendicular orientation.

15. (original) A compression plate anastomosis apparatus as recited in claim 1, wherein the locking means comprises at least one locking arm extending from an outer periphery of a ring of one of the compression plates and a locking extension on the other compression plate.

16. (original) A compression plate anastomosis apparatus as recited in claim 1, wherein the first compression plate and the second compression plate are adapted for use with vessel openings that are generally circular.

17. (withdrawn) A compression plate anastomosis apparatus as recited in claim 15, wherein the first compression plate and the second compression plate are adapted for use with the vessel openings that are noncircular.

18. (currently amended) A compression plate anastomosis apparatus for anastomosing vessels, comprising:

a first compression plate comprising a ring having a first compression plate opening and a plurality of holding tabs extending from the ring;

wherein the ~~first compression plate opening is defined by a plurality~~ of holding tabs extending from a the ring of said first compression plate define a first compression plate opening, wherein the ring and the holding tabs are adapted to enable the portion of the first vessel defining the first vessel opening to extend through the first compression plate opening in a

manner such that the first vessel opening conforms to the perimetrical shape of the first compression plate opening, and wherein the holding tabs are adapted to hold the first vessel portion in a manner such that the first vessel portion is at least partially everted ~~and is not penetrated~~ around the holding tabs; and

a second compression plate having a second compression plate opening;

wherein the second compression plate opening is defined by a holding surface located around the second compression plate opening with a configuration such that the portion of the second vessel defining the second vessel opening may be everted onto the holding surface;

wherein the first compression plate and the second compression plate have mated locking components to lock the compression plates together ~~such that the portion defining the first vessel opening and the portion defining the second vessel opening are joined without being penetrated when the first vessel and the second vessel are anastomosed together.~~

19. (original) A compression plate anastomosis apparatus as recited in claim 18, wherein the first and second compression plates are snap-fit compression plates that are configured such that the locking components snap into place when the compression plates are brought together.

20. (previously presented) A compression plate anastomosis apparatus as recited in claim 18, wherein one of the mated locking components comprises a plurality of locking arms extending from an outer periphery of the ring of the first compression plates and the other mated locking component is a locking extension extending from the second compression plate.

21. (original) A compression plate anastomosis apparatus as recited in claim 20, wherein the locking arms have a length that enables the arms to lock around the locking extension in a manner such that the portion defining the first vessel opening and the portion defining the second vessel opening are held together without being damaged in a manner that causes the anastomosis to fail.

22. (previously presented) A compression plate anastomosis apparatus as recited in claim 18, wherein the plurality of holding tabs extend from an inner periphery of the ring of the first compression plate.

23. (previously presented) A compression plate anastomosis apparatus as recited in claim 18, wherein each holding tab terminates at a rounded tip.

24. (original) A compression plate anastomosis apparatus as recited in claim 18, wherein said plurality of holding tabs extend perpendicularly from the ring of the first compression plate.



25. (original) A compression plate anastomosis apparatus as recited in claim 18, wherein said plurality of holding tabs curve inward from an exterior side of the ring of the first compression plate such that distal ends of the holding tabs are perpendicularly oriented relative to the exterior side of the ring of the first compression plate.

26. (original) A compression plate anastomosis apparatus as recited in claim 18, wherein the holding surface extends radially downward at an angle from the second compression plate opening.

27. (original) A compression plate anastomosis apparatus as recited in claim 18, wherein the first compression plate and the second compression plate are adapted for use with vessel openings that are generally circular.

28. (withdrawn) A compression plate anastomosis apparatus as recited in claim 18, wherein the first compression plate and the second compression plate are adapted for use with vessel openings that are noncircular.

29. (previously presented) A snap-fit compression plate anastomosis apparatus for anastomosing vessels, comprising:

a first compression plate comprising a ring having a first compression plate opening and a plurality of holding tabs extending from the ring;

wherein the ~~first compression plate opening is defined by a plurality~~

of holding tabs extending from a the ring of said first compression plate define a first compression opening, wherein the ring and the holding tabs are adapted to enable the portion of the first vessel defining the first vessel opening to extend through the first compression plate opening in a manner such that the first vessel opening conforms to the perimetrical shape of the first compression plate opening, and wherein the holding tabs are adapted to hold the first vessel portion in a manner such that the first vessel portion is at least partially everted ~~and is not penetrated~~; and

a second compression plate having a second compression plate opening;

wherein the second compression plate opening is defined by a holding surface located around the second compression plate opening with a configuration such that the portion of the second vessel defining the second vessel opening may be everted onto the holding surface;

wherein the first compression plate has an outer periphery from which a plurality of locking arms extend, wherein the locking arms are adapted to lock with a locking extension projecting from the second compression plate that enables the compression plates to lock together ~~such that the portion defining the first vessel opening and the portion defining the second vessel opening are joined without being penetrated when the first vessel and the second vessel are anastomosed together.~~

30. (original) A compression plate anastomosis apparatus as recited in claim 29, wherein the locking arms have a length that enables the arms to lock around the locking extension in a manner such that the portion defining the first vessel opening and the portion defining the second vessel opening are held together without being damaged in a manner that causes the anastomosis to fail.

31. (previously presented) A compression plate anastomosis apparatus as recited in claim 29, wherein the plurality of holding tabs extend from an inner periphery of the ring of the first compression plate.

32. (previously presented) A compression plate anastomosis apparatus as recited in claim 29, wherein each holding tab terminates at a rounded tip.

33. (original) A compression plate anastomosis apparatus as recited in claim 29, wherein said plurality of holding tabs extend perpendicularly from the ring of the first compression plate.

34. (original) A compression plate anastomosis apparatus as recited in claim 29, wherein said plurality of holding tabs curve inward from an exterior side of the ring of the first compression plate such that distal ends of the holding tabs are perpendicularly oriented relative to the exterior side of the ring of the first compression plate.

35. (original) A compression plate anastomosis apparatus as recited in claim 29, wherein the holding surface extends radially downward at an angle from the second compression plate opening.

36. (original) A compression plate anastomosis apparatus as recited in claim 29, wherein the first compression plate and the second compression plate are adapted for use with vessel openings that are generally circular.

37. (withdrawn) A compression plate anastomosis apparatus as recited in claim 29, wherein the first compression plate and the second compression plate are adapted for use with the vessel openings that are noncircular.

38. (new) A compression plate anastomosis apparatus for anastomosing a first vessel and a second vessel together, comprising:

a first compression plate comprising a ring and a plurality of holding tabs extending from the ring;

wherein the plurality of holding tabs define a first compression opening having a perimeter,

wherein the plurality of holding tabs are shaped to enable a portion of a first vessel defining a first vessel opening to extend through the first compression plate opening in a manner such that the first vessel opening conforms to the perimeter of the first compression plate opening as the

first vessel portion is held by the plurality of holding tabs, and

wherein the plurality of holding tabs are adapted to hold the first vessel portion by eversion over the holding tabs at least partially around the perimeter of the first compression plate opening; and

a second compression plate comprising a holding surface around a second compression plate opening;

wherein the first compression plate and the second compression plate have mated locking components to lock the compression plates together; and

wherein the holding tabs of the first compression plate are shaped to hold the first vessel portion in a configuration such that when the first vessel portion and the second vessel portion are anastomosed together there is an uneven distribution of force against the first vessel portion caused by the shape of the holding tabs.

39. (new) A compression plate anastomosis apparatus for anastomosing a first vessel and a second vessel together comprising:

a first compression plate comprising a ring and a plurality of holding tabs extending from the ring;

wherein the plurality of holding tabs extending from the ring of the first compression plate define a first compression opening having a perimeter,

wherein the plurality of holding tabs extending from the ring of the first compression plate are shaped to enable a portion of a first vessel defining a first vessel opening to extend through the first compression plate opening in a manner such that the first vessel opening conforms to the perimeter of the first compression plate opening as the first vessel portion is held by the plurality of holding tabs extending from the ring of the first compression plate, and

wherein the plurality of holding tabs extending from the ring of the first compression plate are adapted to hold the first vessel portion by eversion over the holding tabs at least partially around the perimeter of the first compression plate opening; and

a second compression plate comprising a ring and a plurality of holding tabs extending from the ring,

wherein the first compression plate and the second compression plate have mated locking components to lock the compression plates together; and

wherein the holding tabs of the first compression plate are positioned relative to the holding tabs of the second compression plate such that when the first vessel portion and the second vessel portion are anastomosed together there is an uneven distribution of force against the first vessel portion and the second vessel portion caused by the shape of

the holding tabs and the relative position of the holding tabs of the first compression plate to the holding tabs of the second compression plate.

40. (new) A compression plate anastomosis apparatus for anastomosing a first vessel and a second vessel together comprising:

a first compression plate comprising first holding means for holding a portion of a first vessel that defines a first vessel opening,

wherein the first holding means defines a first compression plate opening having a perimeter;

wherein the first holding means is shaped to enable the first vessel portion to extend through the first compression plate opening in a manner such that the first vessel opening conforms to the perimeter of the first compression plate opening as the first vessel portion is held by the first holding means, and

wherein the first holding means is adapted to hold the first vessel portion by eversion around the first holding means at least partially around the perimeter of the first compression plate opening and not by reliance on penetration of the first vessel portion by the first holding means; and

a second compression plate comprising second holding means for holding a portion of a second vessel that defines a second vessel opening,

wherein the first compression plate and the second compression plate have means for locking the compression plates together.

41. (new) A compression plate anastomosis apparatus as recited in claim 40, wherein the locking means is adapted to lock the first compression plate and the second compression plate together without penetrating through the first vessel.

42. (new) A compression plate anastomosis apparatus as recited in claim 40, wherein the first holding means are configured to enable the eversion of the first vessel portion to expose the interior surface of the first vessel portion to the second vessel portion.

43. (new) A compression plate anastomosis apparatus for anastomosing a first vessel and a second vessel together, comprising:

- a first compression plate comprising a ring and a plurality of holding tabs extending from the ring;

- wherein the plurality of holding tabs define a first compression opening having a perimeter,

- wherein the plurality of holding tabs are shaped to enable a portion of a first vessel defining a first vessel opening to extend through the first compression plate opening in a manner such that the first vessel opening conforms to the perimeter of the first compression plate opening as the first vessel portion is held by the plurality of holding tabs, and

- wherein the plurality of holding tabs are adapted to hold the first vessel portion by eversion over the holding tabs at least partially around



the perimeter of the first compression plate opening and not by reliance on penetration of the first vessel portion by the holding tabs; and  
a second compression plate having a second compression plate opening;  
wherein the first compression plate and the second compression plate have mated locking components to lock the compression plates together.

44. (new) A compression plate anastomosis apparatus as recited in claim 43, wherein the locking components are adapted to lock the first compression plate and the second compression plate together without penetrating through the first vessel.

45. (new) A compression plate anastomosis apparatus as recited in claim 43, wherein the holding tabs are configured to enable the eversion of the first vessel portion to expose the interior surface of the first vessel portion to the second compression plate.

46. (new) A method of anastomosing a first vessel and a second vessel together, comprising:

obtaining a first compression plate comprising a first ring and a plurality of holding tabs extending from the first ring, wherein the plurality of holding tabs define a first compression opening having a perimeter,

obtaining a second compression plate having a second compression plate opening,

creating a first vessel opening in a first vessel,  
extending a portion of the first vessel defining the first vessel opening  
through the first compression plate opening,  
everting the first vessel portion over the plurality of holding tabs at least  
partially around the perimeter of the first compression plate opening in a manner  
such that the first vessel opening conforms to the perimeter of the first  
compression plate opening,  
locking the first compression plate and the second compression plate  
together as a second vessel is held by the second compression ring to  
anastomose the first vessel and the second vessel together at the first vessel  
opening and the second vessel opening, wherein the shape of the holding tabs  
causes an uneven distribution of force against the first vessel portion after the  
first vessel portion and the second vessel portion are anastomosed together.

47. (new) The method of claim 46, wherein the first vessel is held by the  
plurality of holding tabs without relying on penetration of the first vessel portion by the  
plurality of holding tabs.

48. (new) The method of claim 46, wherein everting a portion of the first  
vessel enables the holding tabs of the first ring to contact the exterior of the first vessel  
such that the interior surface of the first vessel contacts the second vessel at the  
respective openings of the first vessel and the second vessel.

49. (new) The method of claim 46, wherein the second vessel is held by the second compression plate in an everted configuration such that the interior surface of the first vessel contacts the interior surface of the second vessel at their respective openings.

50. (new) The method of claim 46, wherein said second compression plate has a second plurality of holding tabs in a mated configuration with the first plurality of holding tabs are after the vessels are anastomosed together.

51. (new) The method of claim 46, wherein the first compression plate and the second compression plate are adapted for use with vessel openings that are generally circular.

52. (new) A method of anastomosing a first vessel and a second vessel together, comprising:

- obtaining a first compression plate comprising a first ring and a first plurality of holding tabs extending from the first ring, wherein the first plurality of holding tabs define a first compression opening having a perimeter,

- obtaining a second compression plate having a second compression opening,

- creating a first vessel opening in a first vessel,

extending a portion of the first vessel defining the first vessel opening through the first compression plate opening,

everting the first vessel portion over the plurality of holding tabs at least partially around the perimeter of the first compression plate opening in a manner such that the first vessel opening conforms to the perimeter of the first compression plate opening as the first vessel portion is held without relying on penetration of the first vessel portion by the plurality holding tabs; and

locking the first compression plate and the second compression plate together as a second vessel is held by the second compression ring to anastomose the first vessel and the second vessel together at the first vessel opening and the second vessel opening.

53. (new) The method of claim 52, wherein everting a portion of the first vessel enables the holding tabs of the first ring to contact the exterior of the first vessel such that the interior surface of the first vessel contacts the second vessel at the respective openings of the first vessel and the second vessel.

54. (new) The method of claim 52, wherein the second vessel is held by the second compression plate in an everted configuration such that the interior surface of the first vessel contacts the interior surface of the second vessel at their respective openings.

55. (new) The method of claim 52, wherein said second compression plate has a second plurality of holding tabs in a mated configuration with the first plurality of holding tabs are after the vessels are anastomosed together.

56. (new) The method of claim 52, wherein the first compression plate and the second compression plate are adapted for use with vessel openings that are generally circular.

57. (new) A method of anastomosing a first vessel and a second vessel together, comprising:

obtaining a first compression plate and a second compression plate,

creating a first vessel opening in a first vessel,

extending a portion of the first vessel defining the first vessel opening through a first compression plate opening of the first compression plate,

everting the first vessel portion at least partially around the perimeter of the first compression plate opening in a manner such that the first vessel opening conforms to the perimeter of the first compression plate opening as the first vessel portion is held without relying on penetration of the first vessel portion; and

locking the first compression plate and the second compression plate together as a second vessel is held by the second compression ring to anastomose the first vessel and the second vessel together at the first vessel

opening and a second vessel opening, wherein the first compression plate and the second compression plate have configurations which cause an uneven distribution of force against the first vessel portion and the second vessel portion as the first vessel portion and the second vessel portion are held between the first compression plate and the second compression plate after the first vessel portion and the second vessel portion are anastomosed together.